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care

Innovative Ways to Sustain Water Supply in Arid Somaliland

By:

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Exchange rate: I USD: 6,000 Sl. Sh.[1]

Disclaimer

The views expressed in this report are not necessarily those of CARE International (Somalia), the Government of Somaliland or the donor (BMZ, Germany). The author takes full responsibility of the accuracy of the contents of this report.

[1] Based on December 2015 rates (see https://en.wikipedia.org/wiki/Somaliland_shilling)

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Executive Summary

Somaliland is a semi-autonomous nation (since 1991) that ticks most boxes on statehood but which is not internationally recognized as such. The semi-desert county of 3.4[2] million people is located in the Horn of Africa. It borders Puntland (southern Somalia) to the east, Ethiopia and Djibouti to the west and the Red Sea to the north. Somaliland is a relatively stable country that nurtures the ideals of democratic governance.

The country experiences severe water stress and suffers chronic shortages of potable water. Water scarcity becomes acute in the dry season, which occurs twice in a year. The shortage becomes a crisis, claiming human and animal lives, when a dry season is prolonged into a drought. Due to global climatic change, droughts are reportedly on the rise in Somaliland – increasing both in frequency and severity. Some parts of the country remain for up to two consecutive years without rain. At the time of this evaluation, western region (Awdal) was experiencing a prolonged dry spell.

CARE and its principal partner, the Ministry of Water Resources (MoWR) in Somaliland, have just concluded implementation of a 30-month project titled *Haraad Reeb*, which was funded by BMZ – Germany Federal Ministry of Economic Cooperation and Development. The thrust of the project was to build the resilience of target communities against drought-related shocks. The project focused on rural semi-sedentary populations living in small village-towns and spread across the eastern regions – Togdheer, Sool and Sanaag. Some activities were also implemented in Sahil, Hargeisa and Awdal regions.

The project performance against set indicators was excellent; indictors were met or surpassed. Implementation effectiveness was evident in the wide coverage, beneficiary participation, gender considerations, coordination mechanism, and in monitoring and evaluation strategies. CARE-MoWR had a robust working relationship, outlined in a joint MoU and applied at all levels – national, regional, districts and village. CARE had sufficient, qualified and motivated project staff while MoWR attached an engineer to the project.

Backed by evidence, the project designers realized that insufficiency of investments is not the core problem facing the rural water supply subsector. The core problem was identified as poor strategies to support operation and maintenance of the established systems. Due to this problem, there has been little to show for millions of dollars that the INGOs and UN agencies have invested in the subsector over the last two decades (1995-2015).

At the policy level, the project addressed the institutional lacuna that has existed regarding community management of water systems. This was done by supporting the MoWR to develop the community water management manual. The evaluation found that the manual is a great step forward. However, it also found that the manual requires review, consensus, reediting and advocacy with a view to giving it a national appeal, acceptance and application. In particular, the proposed 3-person management unit is too restrictive and not adequate for inclusive and participatory regime.

Further, the project supported a 10-daylearning visit to Kenya for 7 officers, which has changed the attitude of the MoWR's leadership toward conservation of the water resource. Given the fragile nature

[2] http://unpo.org/members/7916 accessed on 20 April 2016.

of the water resource in Somaliland, a policy shift toward responsible management of the resource will be a great boost to national welfare. In addition, the project has supported the newly established Hargeisa Water Technology Institute (WTI), both materially and by sponsoring some 35 rural-based water technicians. Availability of such technicians in remote rural villages has been one of the missing links to sustaining the water supplies. While it was too early to determine the effectiveness and contribution of the technicians, the promise was evident. Other donors (e.g. UNICEF, ADB and IOM) were showing interest in WTI.

Additionally, *Haraad Reeb*, project supporting MoWR to establish a rapid response unit (RSU) for maintenance of strategic boreholes. Because these boreholes do not dry up even the severest drought, they are often the lifeline of people and livestock. CARE's assessment observed that over 50% of the cost of maintaining the boreholes went to the hiring of private lifting cranes. The project therefore purchased a lifting crane and basic equipment for RSU and thus lowered the cost of maintaining strategic boreholes by close to 70 per cent.

At the community level the project has piloted a simple, easy to duplicate idea that holds great potential for sustainable water supply. CARE's cost recovery model uses solar to indirectly pay for O & M costs of the water supply. Sunlight is one of the most abundant natural resources in Somaliland. The model capitalizes on the huge demand for solar lighting in the villages. Communities that are either unable or unwilling to pay for sustainability of a water point are nevertheless able and willing to pay for solar lighting and phone charging. The incomes are used to sustain the water supply. The greatest threat to the model is drying up of the shallow wells due to droughts.

To increase the benefits of improved water supply, the project implemented CLTS to change the community's behaviour. This was aligned with WASH cluster approach and the Somaliland sanitation policy. But participation of Somaliland's Ministry of Health, which is the custodian of the National Health Policy, was insignificant. The project also distributed NFIs to vulnerable households. This activity did not match the sustainability (self-reliance) ideals envisioned in overall project objective.

The project shows good value for money. With only 1.5 million euro, coupled with ingenuity and commitment, it directly touched the lives of more than the 36,000 people. The crude cost per beneficiary (total number of beneficiaries over the total investment) was 41.6 euro. Considering the wide geographical coverage, this figure demonstrates efficiency. Further, through negotiated purchase of goods and services the project made savings that extended services to more needy people during the 4-month cost-extension period.

It is concluded that '*Haraad Reeb'* was a realistically designed project that demonstrated more than usual creativity is tacking a difficult problem. Directly, the project improved the lives of over 36,000 people and, indirectly, it will impact nearly the whole of the rural population in Somaliland through policy shifts. There was a clear exit strategy and sustainability concerns remained at the core of the project.

Based on the findings of this evaluation, some short and long (future) recommendations are made. Specific recommendations appear under relevant topic. The overall program recommendations are: 1) Hold a one-day national WASH forum/workshop to share, discuss and disseminate the key outputs of this project (specifically, 'Solar Powered Rural Water Supply Management Model'; 'Drought Response Unit'; 'Hargeisa Water Technical Institute'; and 'The Rural Water Management Policy') with a view to increasing utilization

of lessons learned from the project; 2) Future projects/programs should target building a community assets and collective resilience (in non-emergency interventions) rather than focusing on individual households; for example, replacing direct donation of NFIs with work for assets/NFIs; 3) Any projects of programs with sanitation and hygiene promotion components should involve and develop the capacity of the ministry responsible for public health; 4) CARE needs to develop and implement 'complaint mechanism' to improve on accountability to its beneficiaries.5) Scale up the experiences of the project to meet more needs on the basis of the lessons learned so far; 6) Subject the 'Rural Water Supply Community Based Management Manual' to further discussions and critique with a view to adopting it as a national policy; 7) Support MoWR to develop water resource management guidelines and/or policy. 8) CARE needs to scale up this project's activities, taking into account lessons learned from the past phases, to increase coverage in the target villages and possibly reach new communities.

List of Acronyms

ADB	African Development Bank
CLTS	Community-Led Total Sanitation
FGD	Focus Group Discussion
FIETS	Financial, Institutional, Environmental, Technological and Social
WTI	Hargeisa Water Technology Institute
INGO	International Non-Governmental Organisation
IOM	International Organisation for Migrations
KII	Key Informant Interview
MDG	Millennium Development Goal
MoH	Ministry of Health
MoU	Memorandum of Understanding
MoWR	Ministry of Water Resources (Somaliland)
NFIs	Non-Food Items
O & M	Operation and Maintenance
OECD	Organization for Economic Co-operation and Development
PoU	Pont of Use
PPP	Public Private Partnership
PPP4RA	Public Private Partnership for Rural Areas
RSU	Rapid Response Unit
Sl.sh	Somaliland Shillings
UN	United Nations
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene

1. Introduction

1.1 Preamble

This report is written following the final external evaluation of a project titled '*Haraad Reeb*' – Quenching the Thirst. The evaluation took place in April 2016. The report presents the findings, conclusions and recommendations of the evaluation. Sections one and two summarise the project, the assignment and the methodology. Section three presents the findings and discussions while conclusions and recommendations are made in chapter four.

1.2 'Haraad Reeb': Project Overview

The basic facts(project data and key result areas) of 'Haraad Reeb' project are as summarised in the following tables.

Table 1: Basic project data

Title	'Haraad Reeb' – Quenching the Thirst
Overall objective	Contribute to drought resilience and recovery
Period	1st Oct. 2013 to 31st April 2016 (30 months)
Project budget and donor	EUR 1,500,000from BMZ, Germany
Implementing agency	CARE International, Somalia
Key partner	Ministry of Water Resources, Somaliland
Thematic area	WASH – Water, Sanitation and Hygiene
Geographical converge	Sool, Sanaag and Togdheer, Sahil, Awdal and Hergeisa Regions
Target number of beneficiaries	36,000 people

Table 2: Key result areas

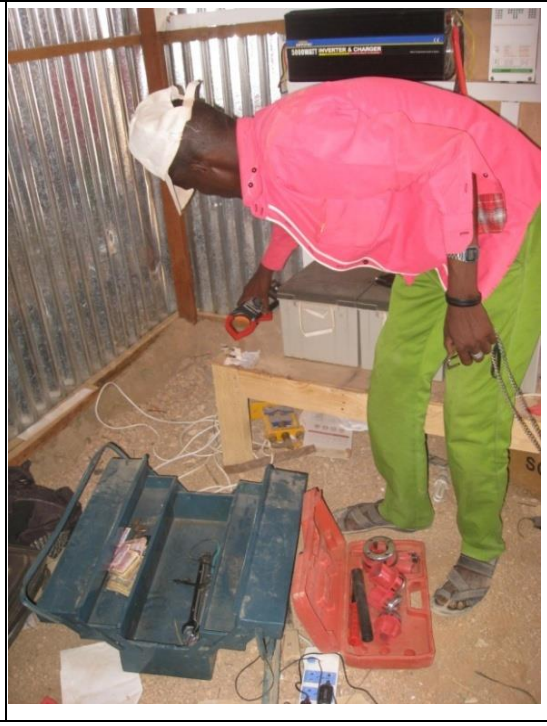
Result 1: Enhanced access to water by improving water infrastructure <u>Indicators:</u> 30%: Beneficiary households with average water use for drinking, cooking and personal hygiene is at least 15 litres per person 32,400 (amended to 36,000): Number of people gaining access to an improved drinking water source, 30% will be women and girls 100 (amended to 120: Households targeted for rain water harvesting mechanism/systems	

Photo right: Children and goats enjoy a gush of fresh water at Geel-Loo-Kor village, Sahil region.

Result 2: Improved operations and maintenance of rural water supply

Indicators

a. The water act disseminated and adapted by key stakeholders in rural water supply
b. 12 (amended to 16) water systems managed through public-private partnerships in a cost recovery mechanism
c. Community technicians are able to service and maintain water systems



Right: a rural water technician displays his tools of trade at Kiridh village, Sool region.

Result 3: Sanitation and hygiene practises improved in the rural community

Indicators

a. 5 villages certified as "open defecation free" communities

b. 15% of people who observe the four key hygiene practices (washing hands after defecation, after cleaning a child's bottom, before eating and preparing food)

A community leader displays ODF certificate (L) and shows her latrine constructed through CLTS (R) at Quryaale village, Togdheer region.

1.3 The Evaluation

The overall objective of the evaluation was to assess the progress made towards achievement of the overall and specific objectives of the project, and achievement towards its indicators. The evaluation assessed the overall impact (positive as well as negative) observed as a result of the project intervention. It also generated some well documented findings, lessons learned and recommendations. The evaluation was based on the five evaluation criteria provided by the Organization for Economic Co-operation and Development (OECD): relevance, efficiency, effectiveness, impact and sustainability.

2. Methodology

2.1 Overall approach

The assessment collected and analyzed both quantitative and qualitative data. The two types of data were compared (triangulated) as much as possible in order to obtain valid and credible findings. Data was obtained from both primary and secondary (documented) sources. The evaluation was made fully participatory in order to capture issues, opinions, ideas, insights and suggestions from the entire spectrum of stakeholders – primary and secondary beneficiaries as well as other relevant stakeholders.

2.2 Sample size and sample selection

A total of 250 household samples were collected in 10 out of the 30 project villages in the focus regions: Togdheer (39%), Sool (50%) and Sanaag (11%). Five districts within the regions were sampled: Ainabo, Burao, Eil-afywyne, Las Anod and Oodwiene. Data collection in other regions employed qualitative methods only.

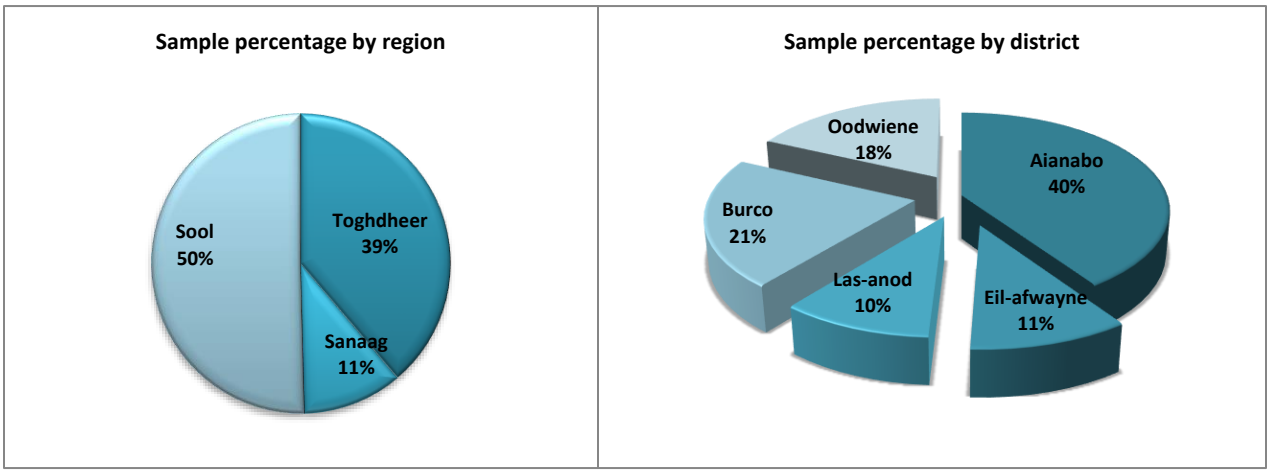


Fig.1: Sample size distribution by region (L) and by district (R)

2.3 Study tools

The evaluation used of the following methods of data collection:

1. Literature review/desk study of selected documents (see list of references at the end)
2. Household questionnaire comprising highly defined items (see annex 1 of this report)
3. Focus group discussions (FGD)
4. Key informant interviews (see annex 2 of this report)
5. Synoptic visits (to selected specific sites within the project areas)

Appropriate tools were developed to capture information using methods 2-5 listed above. Under the first method and as a minimum, the following documents were reviewed: the project proposal/log-frame and its amended version, annual reports, final report, baseline report, KAP survey report (if any), M&E plan and mid-term evaluation report (if any).

The highly specific household questionnaire was administered to beneficiary households only (250 of them). Further, the evaluation administered semi-structured questionnaire to 21key informants drawn from CARE staff, MoWR staff, regional/district staff and selected community leaders. A total of 6 focus group discussions were held with development committees, women groups and user committees.

A team of 6 enumerators selected from the project beneficiaries and trained for one day administered the household questionnaire. Prior to printing the final version, the household questionnaire went through various stages of review and pre-test (at Kiridh village).

3. Findings

The findings of this assessment are presented in five subheadings, which very closely resemble the structure of the baseline report, but which also take into consideration the project dynamics since the production of that report.

3.1 Socio-Economic Data

Of the 250respondents to the household questionnaire, 73 percent were females and 27percent were males. This was partly by design – the project was biased toward women and children – and partly because women were mostly found at home during the assessment. The average age of the respondents was 42 years. The positions of the respondents in the households were: mother/father 95 per cent and adult family member 5 per cent. Their marital statuses were: married (98%), single (4%); widow/widower (4%); and divorced/separated (5%). The average household size was 8 persons, compared to 7 found at the baseline. Children below 5 comprised 20 per cent of the population. The most accessible sources of information were radio (54%); community elders (12%) and TV (10%).

3.2 Programming

3.2.1 Relevance

Locations: The selected regions (Togdheer, Sool and Sanaag) are all prone to periodic droughts and are severely water stressed. Rural populations in these regions comprise nomadic and semi-nomadic communities living in small village-towns (about 500 people). The village-towns are scattered, are often off the main roads and in insecure locations. Therefore, the project targeted the correct beneficiaries and, to a large extent, addressed service disparities.

National aspirations: This project was aligned with the strategic objectives of the Ministry of Water Resources (MoWR), stated as: "to increase the availability of safe, affordable water in urban and rural areas through the development of adequate groundwater resources and to improve governance of water through the development of national water regulations, policies and strategies" (Water Act, 2012)."

Local needs: 'Haraad Reeb' project targeted 43village-townsspread across the country but concentrated in Togdheer and Sool regions. The local respondents to the questions raised in the evaluation affirmed that the intervention, especially the water supply component, addressed their top priority need.

Emphasis on sustainability: According to CARE's assessment, NGOs and UN agencies have dominated the water sector in Somaliland since the collapse of the federal government in Somalia. Water projects have been implemented largely in emergency approach, with little attention to long term operation and maintenance. Consequently, there has been little to show for the large investments made in the rural water supply subsector over the last 2 decades (1995-2015).This project identified the major challenge in sustainability of rural water supply as weakness in the water governance system, including lack of proper governance institutions and localised skills.

The project implemented a number of ingenious, highly relevant interventions to fill the gaps. One, CARE's cost recovery model for small village water supply is based on using solar to indirectly pay for O & M costs of the water supply. Sunlight is one of the most abundant natural resources in Somaliland. The model capitalizes on the huge demand for solar lighting in the villages. Communities that are either unable or unwilling to pay for sustainability of a water point are nevertheless able and willing to pay for solar lighting and phone charging. The incomes are used to sustain the water supply.

Two, the project has supported the development of the 'Rural Water Supply Community-Based Management Manual,' which seems set to become a national policy on community management of rural water points. The manual addressed the pertinent issues of local water governance, separates roles of various players and provides basic technical information. Fully implemented, the manual will increase accountability and transparency of water management at the grassroots. However, the manual has not been exhaustively discussed among the stakeholders and it is yet to be approved by the national parliament.

Three, there have been few rural-based water technicians in Somaliland. This has been a major constraint to O & M as the ministry lacks sufficient resources to respond to water point failures in far-off villages. By training 35 rural water technicians, the project has contributed significantly to addressing this bottleneck.

Moreover, the project has provided the tools and materials required for sustaining trainings at the newly established Hargiesa Water Technology Institute (WTI). In addition, it provided each trainee with a toolbox containing the basic items of their trade.

Four, most of the shallow-well based water sources dry up in the dry season all over the project sites. A few deep wells (boreholes) supply water throughout the year and are designated 'strategic boreholes'. Such sources become a community's lifeline in prolonged dry spells. But the sources are overstressed in such seasons (often working 24 hours a day) and the O & M costs become enormous. CARE's assessment found that about 40% of the cost of maintaining strategic boreholes is due to the hire of lifting crane. Therefore, this project purchased a crane for the MoWR's Rapid Response Unit for the strategic boreholes. This is ensuring functionality of the target sources in a more cost-effective way.

Five, an exposure visit to Kenya by MoWR and CARE staff has contributed significantly in shaping the Somaliland water sector policy, particularly with respect to water resource management. In the past the ministry has viewed water as inexhaustible good (despite evidence of over-abstraction in places like Borma) and therefore concentrated only on abstraction.

Six, in locations where water sources have sufficient and reliable supply and the consumer base is large (e.g. Hariirad), the project embraced and supported establishment of the public private partnership for rural areas (PPP4RA) water management model. PPP has been demonstrated to be highly sustainable (e.g. in Puntland) under such conditions.

Seven, to increase the health benefits of improved water supply, the project promoted hygiene and sanitation (CLTS) among the beneficiaries. CLTS is the Somaliland's official policy on sanitation promotion. Based on the 'no subsidy policy', CLTS seeks to empower communities by changing their mindset and hence behaviours toward safe disposal of human excreta.

Eight, the project also provided NFIs based on households' relative needs. While the items were relevant to the needs of the target households, this aspect of the project was unsustainable and, unlike the rest of the project's interventions, tended to promote the 'emergency/dependency' way of life.

3.2.2 Efficiency

With only 1.5 million euro, coupled with creativity and commitment, this project has touched the lives of more than the 36,000 people it targeted. The project seems set to touch the lives of the entire rural population in Somaliland through improved policy environment and better O & M practices.

The project was generally delivered in time. However, the donor provided additional 0.5million euro and approved a 4-monthcost extensionto utilize the funds. Availability of such extra funds demonstrates the efficiency in which the project funds were spent – with an eye on value for money. The specific activities implemented during the cost extension period were:

- Increase the number of the rainwater beneficiaries from 100 to 120
- Increase projects with improved water infrastructure to from 16 to 32

- Mobilize and select an additional 5 communities in the same target regions to raise the number of NFI and tank beneficiaries from 30 to 35 communities
- Increase the number of shallow wells mounted with solar panels from 12 to 16
- Upgrade the water supply kiosks and storage capacity in 15 previous and currently supported communities
- Increase household beneficiaries of NFIs from 300 to 380
- Select and support additional 3 boreholes and 5 mini water systems
- Train 15 additional rural water technicians from mini water systems

Overall, the resources were used efficiently to produce the expected outputs and hence outcomes and the impact. The crude cost per beneficiary (total number of beneficiaries over the total investment) was 40.6euro. While it is complex to quantify the socio-economic impact of this project, the computation should take into account the many hours saved due to presence of water at convenient distances and better flow rates; the person-days saved from wastage in water-and-sanitation-related sicknesses; medical and hospital bills reduced; the study hours saved for pupils; and the security risks reduced for women and girls as they search for water. Specific indicators of the project's efficiency are discussed under relevant activity subsections – water supply, sanitation improvement and hygiene promotion.

3.2.3 Effectiveness

Coverage: The original design focused on the more water-stressed eastern regions. But the project covered virtually all region of Somaliland – from the border with Puntland in the east to the borders with Ethiopia and Djibouti to the west. On one hand, this extensive coverage spread the project resources rather thinly; but on the other hand it addressed perceived and/or real clan, social and economic inequalities. Moreover, MoWR realized that CARE's rural water supply model had potential for nationwide application and therefore requested that the model be piloted in as diverse conditions as possible. The project made deliberate attempt to reach remote villages. Specifically, the project reached 15 new villages in the Sool region – in the less secure locations around Las Anod. Success in these new villages was based on well cultivated relationship with the local district water office.

Performance: Measured against the indicator targets, the project's performance is as summarised in the following table.

Table3: Project performance against indicators

Indicator	Performance	Comment
Enhanced access to water		
30 per cent: Beneficiary households with average water use for drinking, cooking and personal hygiene is at least 15 litres per person	46 per cent beneficiary households with average water use for drinking, cooking and personal hygiene over 15 litres per person	153per cent achievement

32,400 (amended to 36,000): Number of people gaining access to an improved drinking water source, 30 per cent will be women and girls	Over 36,000 people gained access to an improved drinking water source – more than 50 per cent of them women and girls	111 per cent achievement against the original target
100 household (amended to 120 household): Targeted for rain water harvesting mechanism/systems	120 households supplied with tanks	112 per cent achievement against the original target
Improved operations and maintenance		
The water act disseminated and adapted by key stakeholders in rural water supply	100 per cent	100 per cent achievement
12 (amended to 16) water systems managed through public-private partnerships in a cost recovery mechanism	16 PPP projects established	133 per cent achievement against the original target
Community technicians are able to service and maintain water systems	35 technicians trained	175 per cent achievement against the original target
Sanitation and hygiene		
5 villages certified as "open defecation free" communities	5 village certified ODF	100 per cent achievement
15 per cent of people who observe the four key hygiene practices (washing hands after defecation, after cleaning a child's bottom, before eating and preparing food)	78 per cent	The reporting may have been biased by the cultural hand washing practices in Somaliland

Beneficiary participation: Beneficiaries understand that this project as pilot and therefore expected a scale-up phase. Community participation in the project cycle was good. The communities were consulted and mobilized at the onset through community elders and village heads. Consequently, there was strong ownership of the project outputs. Eighty-five percent (85%) of those interviewed knew about CARE and the project.

In all places the community identified and contributed land for construction of physical infrastructures. They also contributed labour (though limited mainly to site clearance). Participation was highest in the CLTS process, where 34 per cent of the households had constructed their own latrines in various villages. Community participation was also strong in the villages where PPP was promoted.

Although CARE did not have in place a formal complaint mechanism, beneficiaries were satisfied with the project. They termed the selection of NFIs beneficiaries as "transparent, participatory and fair."

CARE is also well known and respected by the communities in which it has worked for over 3 years through 'Haraad Reeb' and other projects.

Gender inclusion: The project was conscious about the gender issues in water supply and hygiene improvement. CARE recognizes that water supply and sanitation issues have a greater impact on women and girls than on men and boys. For example, it is the traditional role of women and girls to fetch domestic water – a role that consumes a lot of time and exposes women to risks of rape and strong sun. Moreover, women take care of the family meals and care for babies. These roles are very sensitive to availability of potable water.

To address gender issues in water supply, the project included women in water management. However, this was not observed in practice - representation of women in water committees remained insignificant. But women played pivotal roles in the CLTS process and have contributed significantly to its success.

Generally, those interviewed concurred that women make better water point managers. This was evident in Dhubato village, were women manage the water system in a remarkable efficient way.

According to the Rural Water Supply Community-Based Management Manual developed under this project, a water point management unit comprises 3 persons – village head, operator and one member from the community. Since the village head and operator are usually men, chances are limited that women will be represented. It was reported that when a water point fails to function, women put more pressure than men in having back to functioning.

An attempt to include women as trainees of the WTI did not succeed partly because manual work is viewed as men's in Somalia, and partly because women's social roles do not favour their participation.

Coordination: CARE and MoWR have excellent working relations. This was evident in all levels – national, regional district and village levels. To avoid role confusion, both parties signed a detailed MoU at the start of the project and each party honoured their part. Both partners participated actively in the project cycle – initial assessments, community mobilization, implementation and final evaluation.

The ministry attached an engineer to the project, who aided in technical designs and provided relevant advice. As per the CARE-MoWR MoU, the ministry's staff at the regional level took active roles in linking CARE with communities, especially in the 15 new villages. This enhanced security and community participation. Specifically, MoWR had 3 regional officers for which it paid incentives throughout the life of the project.

To ensure a lasting change among the communities in which it works, CARE has adopted a program approach in its programming. The approach is both that is both multi-year and multi-sectoral.

Monitoring and evaluation: There were no significant problems or issues reported with respect to the project's M & E. CARE and MoWR had sufficient in-house personnel and [project] resources to effectively monitor the project. In some cases specialised services were outsourced.

Based on the log-frame, the project had SMART indicators, which were tracked on a regular and ongoing basis. CARE's field staff collected performance data and tracked progress. Simple but numerically sensitive data collection tools were designed to collect information on the intended results and outcomes.

The monitoring process was also participatory – involving beneficiaries and designed to increase community engagement and 'downward accountability'. CARE employed a participatory scorecard process, a qualitative approach that involved community members and other WASH stakeholders to assess the performance of WASH service providers. However, there was no explicit community complaint mechanism. Regardless, interviews with benefices during the evaluation revealed that they were satisfied with the way the project was implemented.

Three types studies were conducted through this project: 1) Baseline – conducted at the onset to determine the status of the proposed indicators in the log-frame. This covered mapping of existing WASH services, committees and facilities in target communities as well as the policy environment. 2) Half yearly reviews: CARE conducted internal reviews every six months to assess performance on major milestones of the project. These reviews involved the Ministry of Water, UNICEF, community representatives and CARE's project team. The forums were used for advocacy on the basis of data generated from the project. Moreover, the forums assessed the progress on fulfilment of roles and responsibilities of key stakeholders; documented lessons learned and challenges and provided possible solutions. It also provided opportunities to capturing unintended outcomes, risks and assumptions. 3) According to the project design, a final evaluation was planned for the end of the project. The stated objective was "to assess outcomes and how these outcomes were influenced by the project's interventions and shaped by the operational context."It was planned that the evaluation methodology would be consistent with the baseline.

3.2.4 Overall impact

Overall, this project has impacted the Somaliland WASH sector considerably. The impact cuts across from policy down to the practitioner and village levels. Development and endorsement of the Rural Water Management Policy[3] is a major national milestone and it is set to drastically change how community water points are managed. The international (Kenya) exposure tour, supported by this project, has changed the mindset of the MoWR leadership with respect to water resource management. It is anticipated that the changed attitude will translate into a policy shift. Equally, the 'Solar Powered Rural Water Supply Management Model' has clear advantages over other local methods of lifting water from wells. The ministry has taken the model as pilot on cost-recovery for sustainability of rural water supply systems and intends to promote it in all other districts. (The model covered 5 out of the 43 districts in the country). It was reported that one INGO (Caritas) is already replicating the model. Through solar pumping the model has enabled communities to use safer water. People prefer water sources that are free or least costly, are closer to their homes, have good tasting water and require minimum effort to obtain water. The water supply model promoted in this project combine all these advantages. It is anticipated that in the long run the use of safe water will reduce the local burden of waterborne diseases and hence reduce poverty. Solar lighting, in addition to supporting the village water supply, has created employment, increased hours of doing business in the local shops and also promoted security.

[3] The policy is yet to be adopted by the parliament but has been endorsed by national stakeholders.

3.2.5 Sustainability

'Haraad Reeb' project showed a clear departure from the traditional emphasis on 'emergency response' in Somaliland to 'sustainable development' approach. Emphasis on sustainable development was appropriate given the relative stability prevailing in Somaliland. The approach was also aligned with the aspirations of the semi-autonomous government of Somaliland. However, provision of household NFIs was unsustainable and gave the project an emergency angle.

The evaluation noted that CARE interventions are progressively moving from one-off projects to a programmatic approach – combining several interventions in one locality and taking longer time (over 3 years). This approach addresses multiple factors that underlie poverty and also enhanced the community's capacity to sustain the outputs and outcomes.

3.3 Water Supply: General

Relevance: The selected regions (Togdheer, Sool and Sanaag) are all prone to periodic droughts and are severely water stressed. The decision to implement water supply in these regions was therefore relevant. While other regions of Somaliland benefited from this project, the concentration of activities was in Togdheer and Sool. The project target in Sanaag was only one district (Elafweyn) because the region had benefited from the previous phase of the project. MoWR reported that in comparison to the rest of Somaliland, these regions have enjoyed relatively fewer investments and show poorer water supply indexes.

The project worked with Somaliland's Ministry of Water Resources, which holds national mandate for water supply, but which often lacks resources to adequately deliver to the mandate. The project therefore contributed significantly to the ministry's capacity development as well as operations. Apart from the target communities, the ministry was a major primary beneficiary of the project. All interviewed beneficiaries found the water supply intervention highly relevant. Asked to name their top local priorities, participants in the FGDs always placed water supply at the top of the list.

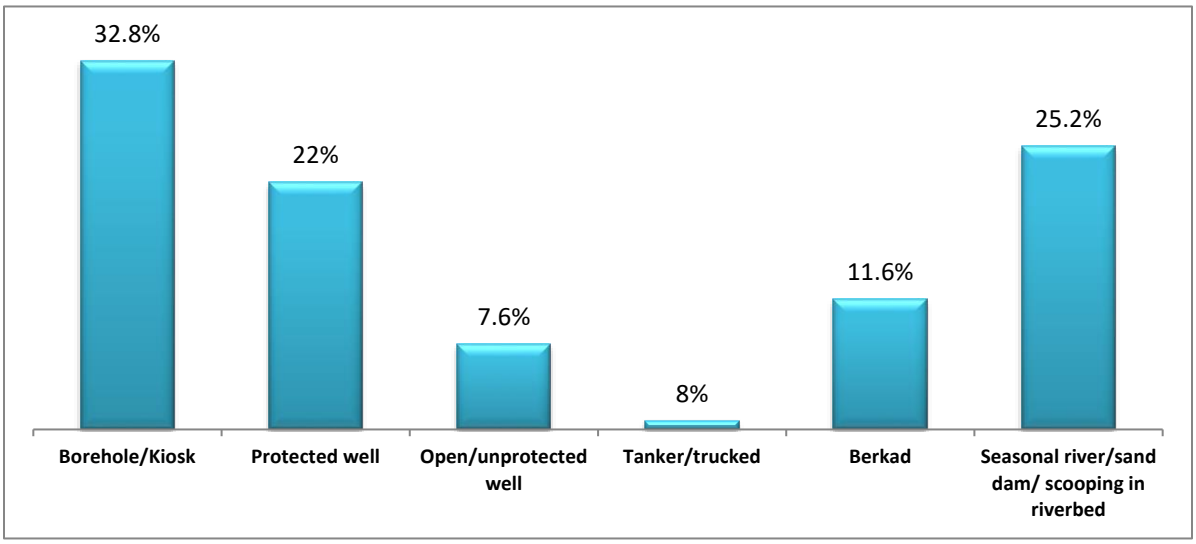


Fig.2: Wet season water sources

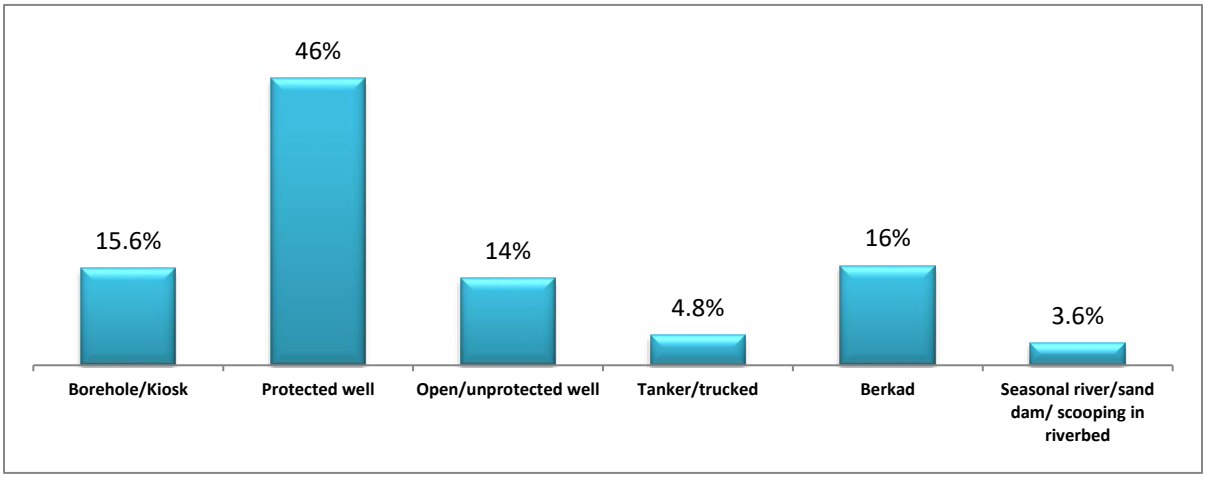


Fig.3: Dry season water sources

Water sources used in the dry and wet seasons have marked difference. Boreholes and water kiosks are the commonly used water sources in the wet season, accounting for 54.8 per cent of all sources. However, use of protected wells is the commonest practice in the dry season, accounting for 46% of all sources. Use of surface water sources is highest in the wet season at 25.2 per cent compared to the dry season at 3.6 per cent. This is explained by the fact that surfaces sources have no water in the dry season. It also implies that use of unimproved sources, including unprotected wells, is common in the wet season. This poses the risks for an increment in incidences of waterborne diseases.

Efficiency: Given the larger number of un-functional water sources (estimated at 40%) in Somaliland, the project opted to rehabilitate, repair or upgrade existing sources rather than construct new points. The cost of such works is much lower than that of making new sources. This was therefore a cost effective means of ensuring that as many needy people as possible were served. CLTS is perhaps the most cost-effective approach to mass sanitation. The project adopted the 'no-subsidy' approach that CLTS advocates and therefore empowered the communities to make their own latrines. Replacement of generator with solar panels to pump water in a number of shallow wells significantly reduced the heavy operational costs. However, the low maintenance cost of the systems makes them much cheaper to run than the traditional alternatives.

Effectiveness: National coverage of improved water source averages 42% – 46% in urban and 38% in rural areas. According to this evaluation, the main supply indicators had improved significantly in the project areas since baseline (2013).

Table 4: Water component indicators against the baseline data

Indicator	Baseline value	Evaluation value	Nature of Change	National/international target
Water in <500m	45%	89%	↗	<500m (National/MDG)

Water in <30min (wet season)	67%	88%		<30min (SPHERE[4])
Price per 20l	2,000 SL.SH	2,000 SL.SH[5]		-
Per capita consumption (wet season)	6.5 lppd	23.9 lppd		>20l (MoWR); >15l (SPHERE)
Queuing at the water point	Not available	30%		-
Annual reliability	55%	58%		-
Functionality	Not available	63%		-
Experiences with quarrels at the water point	27%	13%		This indicates congestion at the water point due to low pressure or high population

The sample showed that 63 per cent of the water sources developed through this project were not functional a day before the interview. The main reason was the fact that sources (shallow wells) in the mini-projects had dried up due to drought. While42 per cent cited mechanical problems as the reason why water point was not functioning, FGDs revealed that by 'mechanical problem' the respondents actually meant the source had dried up.

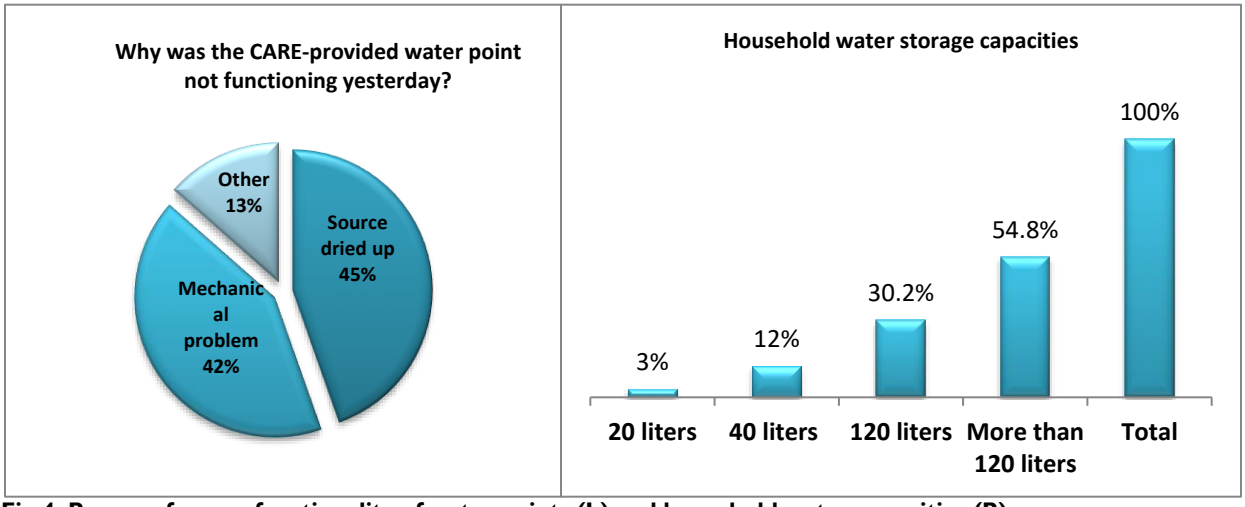


Fig.4: Reasons for non-functionality of water points (L) and household water capacities (R)

[4] Since this was not an emergency program, SHPERE standards do dot strictly apply.

[5]Free water is provided in various project sites (a pro-poor approach) but payment tends to enhance sustainability

Per capita water consumption in wet season was relatively high at 23.9 lppd. This was above the 15 lppd for the SPHERE minimum standard and within the 20-30 lppd standard set by MoWR. However, per capita water consumption dropped to 14.5 lppd in the dry season. Thus the annual average was 19.5 lppd. It was reasoned at the project design that increasing availability of water at the source alone was not enough to raise the per capita water consumption. Better storage and easier means of transporting water were expected to have a greater impact. Thus the project provided household storage containers and wheelbarrows to ease transportation. As per the project's theory of change, an increment in the capacity to store water at the household (provision of containers) may have contributed to the rise in the per capita water consumption. However, provision of the NFIs was not a sustainable intervention. About 1 year after distribution, 19 per cent of the households no longer had the items; 31 per cent had some but not all and half (50%) had all the items in use.

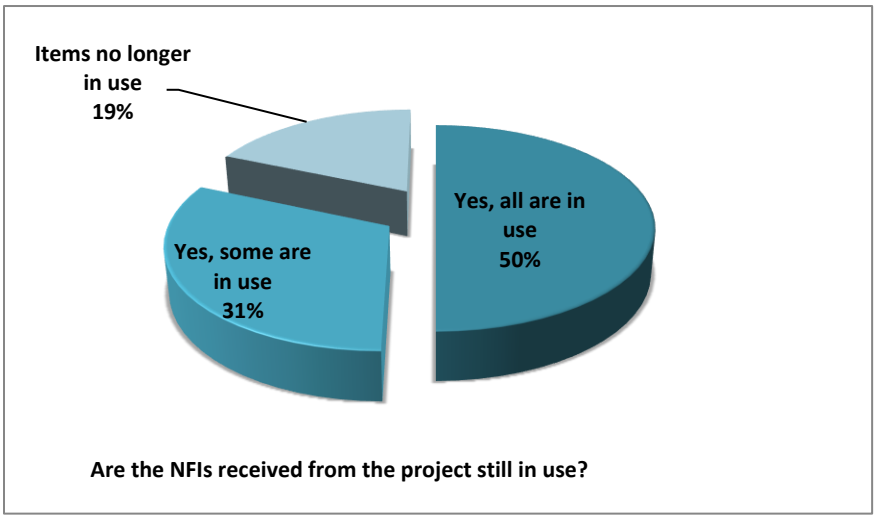


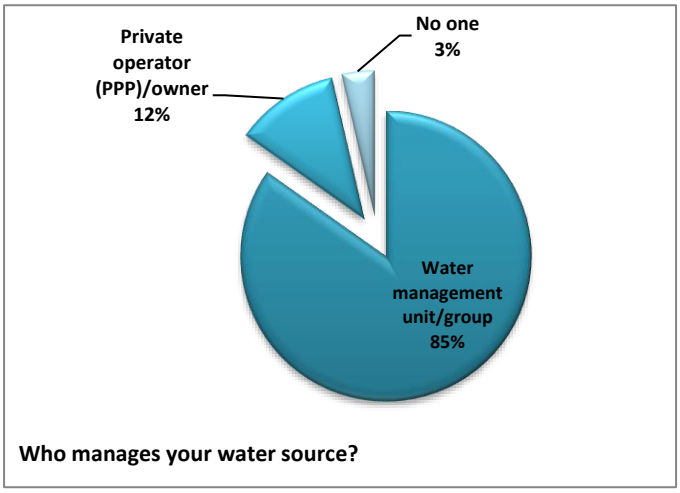
Fig. 5: NFIs in use at the time of the evaluation

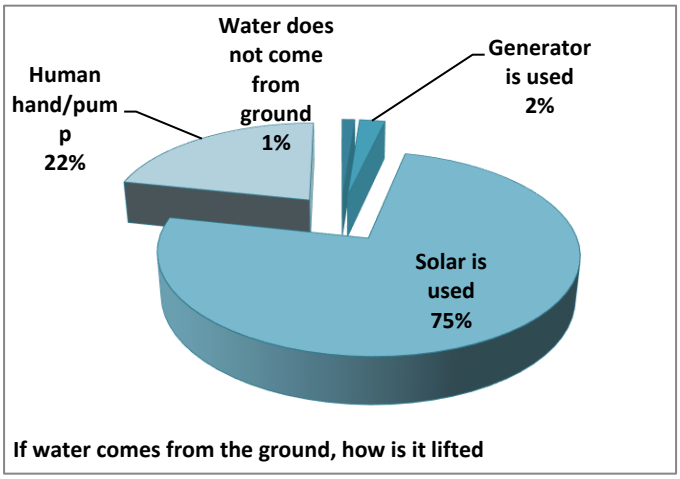
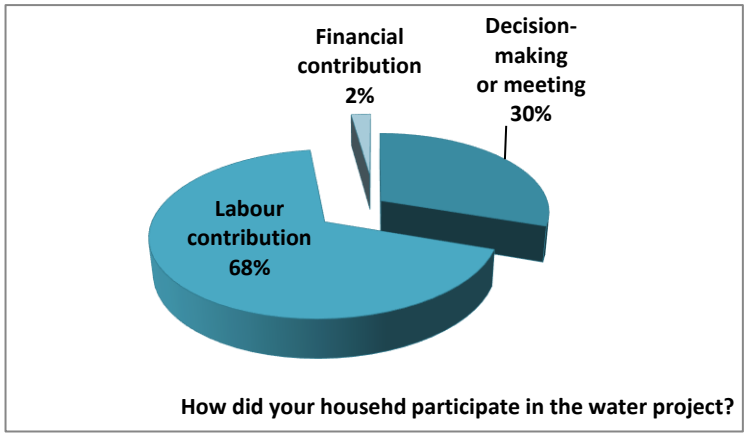
Sustainability: Sustainability of the water sources was at the core of project. The project was primarily designed to address the problem of poor sustainability of the sources in Somaliland. The evaluation employed FIETS analysis[6] that assesses sustainability in terms of 5 critical elements: financial, institutional, environmental, technological and social aspects of sustainability.

Table5: Project sustainability on the basis of the FIETS model

Sustainability aspect	Description in the project
Financial	Money generated from sustainable income-generating activities (solar lighting, phone charging, horticulture and water trucking in places like Suuqsude) will be seeded into the local water project – a financially sustainable approach. Sparsely distributed small communities (pop. <500 people) are generally unable to

[6] FIETS analysis was proposed by Simavi Netherland's WASH programme for analysing a project's sustainability: www.simavi.org

	financially sustain a water system through the traditional cost recovery approaches. Those who paid for water reported an average of 2,000 SL.SH per month and SL.SH for a 20l container. Payment for water is a positive indicator for sustainability. However, in this project some of the payments were done indirectly through solar lights.
Institutional	The project supported development of 'Rural Water Supply Community Based Management Manual' which sets up the Water Point Management Units. Such units were found in 85 per cent of the sampled sources.  **Fig. 6: Water point management**
Environmental	Through the exposure visit to Kenya, the project underscored the critical need to address water resource management in Somalia – something the ministry has not done before. However, drying up of shallow wells during the prolonged dry seasons/drought presented an environmental challenge for which no clear solution had been identified. In some localities the project constructed sand dams to increase water retention around the shallow wells. It was found that sand dams prolong the use of shallow wells during the dry season due to retention of water in the sand. This was demonstrated in places like Higlo.

Technological	Use of solar to pump water from shallow wells and to generate money for sustaining water points is highly sustainable technological innovation – as opposed to hand-pumps, ropes and diesel methods of water lifting.  **Fig. 7: Technologies used for lifting potable water from the ground.**
Social	The target water points have been used for millennia in Somali and are socially well accepted. All the wells that this project protected and/or upgraded were 'donated' by the communities. However, only 49 per cent had participated in the development of the water their water point; 51 per cent did not participate. Those who participated did so in various ways: labour (68%), decision-making/meetings (30%) and financial contributions (2%).  **Fig. 8: Participation in the water project**

3.4 Infrastructure Improvement

3.4.1 Rain water harvesting systems

Rainwater harvesting was a sound means of supplementing the scanty household water supply. 150 households were each provided with a four-meter-cubed tank. However, due to the traditional culture of sharing among the Somalis, more than this number benefited from the available tanks. It was found that the tanks, while supplied for individual households, were largely used communally.

The users termed the 'tanks very good' and requested for more tanks to cover more households. The biggest challenge to the technology is scarcity of rain. It was found that households treasured rainwater collected into the tanks for drinking purposes. Such water is much softer than ground water; however, water scoped from sand dams or scoop-holes, though less safe, was preferred for drinking over the water from wells (well water is harder).

Rainwater collection over dirty surfaces was also a water quality challenge. However, it was reported that users disconnected the system when the rains just start to allow the dirty water to flow away before collecting safer water.

Rainwater harvesting technology is strictly beneficial for household with an appropriate iron sheet roofs over which to collect the water. In this sense it lacks universal application in all needy households. The evaluation found that a household that can afford iron sheeting for the roof is relatively rich – hence the technology may not have targeted the poorest.

It was observed that the tanks were placed on a low platform that made water collection difficult because the space between the tap and the ground is inadequate.

Beneficiaries used the provided tanks to store trucked water. Additionally, the tanks were mobile and were reportedly used to transport water to livestock in the field (it is convenient to take water to animals this way than to bring the animals to the water). Some beneficiaries used the tanks to store and retail water, hence quenching the local thirst and generating some income for their households.

3.4.2 Solar water pumping

Use of solar energy to indirectly pay for sustainability of water sources is an innovation with potential for wider replication. Solar is one of the most readily available and yet renewable sources of energy in SL. People are often not willing or able to pay directly for water supply; but they are willing and able to pay for small supply of electricity for lighting and charging of phones.

Often when payment for water is introduced people prefer unimproved sources because the source provides 'free' water. Moreover, the number of people in target communities is too small (often <500) to pay enough money for running a water system. The money from the charging and lighting is used to sustain the local water point (pay technician, cost of small operations and can supplement in case of a major breakdown). This is an innovative, indirect cost-recovery mechanism.

But use of solar, alone or in hybrid with other sources of energy, reduces the operation costs. Users also reported that they liked solar pumping because it reduces the use of human muscle to lift the water. Spare parts present a major challenge to maintaining community water sources in remote villages; solar largely eliminates the need for such parts (on hand pumps).

Lifting water from a well using a rope is strenuous and poses risks of users (especially children) falling into the pit, It was also found to be unhygienic. Solar pumping removes all these hindrances. However, since the solar pumped water directly without the battery as intermediary, the communities complained that they lacked water on cloudy days.

Alternative methods of water lifting (hand-pump and diesel generator) have heavy O & M costs. Communities reported that use of solar pump (as opposed to hand drawing) increased the water abstraction rate and hence led to faster drying up of the wells. In other words, solar abstraction increased the rate at which water is used and hence increased depletion. The project intruded sand dams in various villages (e.g. Dhubato, Suugsude Higlo nad Ulasan) to increase water retention around the wells. In some villages both solar and generator pumping were used (e.g. Harashekh). The generator served best where water demand was very high while the solar reduced the cost of pumping by up to 40 per cent.

3.5 Water Supply: Operation and Maintenance

3.5.1 Solar Lighting for Water supply

The project provided solar lighting for pay, such that the amount collected would be used to maintain the local water source. For local villagers who had not have electricity in the village before, this was a most welcome development. The project provided 15-20 solar lamps, fitted with energy-saving bulbs. Connections were usually made at business premises or social gathering points including mosques. Payment per bulb per night averaged SL.SH. 1,000, but was as high as SL.SH 3,000 in some places (e.g. Harashekh). The project also generated another SL.SH. 1,000 for every charged mobile phone (there was a special charging centre managed by the water operator). While common panels were used, outlets for lighting and for water pumping were separated. Average daily collection was SL.SH 15,000 per day.

Selection of beneficiaries was done by the community and prioritized business (ability to pay), public places and clan dynamics. The incomes were generally shared into 3 parts: 1/3 for the operator; 1/3 saved; and 1/3 for daily running. Some power consumers did not pay – mosques, powerhouse and the village head's office. Batteries (3 in number) were used for storage of water pumping energy while inverters were used to provide A.C. current for lighting and for charging mobile phones. Lighting was regulated by communal rules to run roughly from 6 to 11 p.m. each night.

Communities felt that the available energy was too little to meet the local needs – the demand for connections was often higher than the project could meet. In all project sites the solar lighting systems were functioning as intended. The lights increased security and hence prolonged evening business hours.

There were no direct household connections – hence the project did not support evening reading by schoolchildren; neither did it encourage latrine use at night. While the money generated by the project was reportedly not enough to cover a water points total O & M cost, it reduced the cots significantly.

Since the systems were relatively new, there was no sufficient data to compute the contribution of the systems to the O & M costs. CARE estimated that the solar system can meet up to 60% of the costs while the villagers and other well-wishers covered the rest.

Electricity service providers who existed in some villages before the project were incorporated into the project. The project identified most of them and trained them as rural water technicians – thus merging their business with the project's solar systems. This increased the suppliers' income and, at the same time, increase service and its sustainability. It was found that some small gadgets, such as radios, torches and phones, have in-built solar chargers, which reduced the clientele base for the project's trainees.

3.5.2 Hargeisa Water Technology Institute (WTI)

Lack of a person to make small repairs on a water supply in a remote rural village often means people will go without water for a long time due to simple faults. The country has in the past lacked community-level technical operators that are rural-based and conversant with the systems.

MoWR has the mandate to do such repairs but it lacks the capacity (human and financial) to cover over 4,000 water points spread in 43 districts. In the last two years MoWR, with support from this project the MoWR started the Hargeisa Water Technology Institute (WTI). The institute is housed within the new MoWR premises at Hargeisa.

This project support WTI by providing technical equipment and tools for two workshops. It also paid fees, full-board and transport costs for training 35 rural-based water technicians through a six-month residential certificate course. Combining theory and practice, the course covered plumbing, electrical, solar and mechanical works.

The course fits a beneficiary for multiple vocations and most of the graduates are able to support themselves through contracted construction works and to offer free service to their communities. Even when a technician is unable to repair a damage, he has the know how to report accurately to the ministry on the nature of problem in a remote water source. According to beneficiaries, plumbing has proved to be most marketable skill obtained from WTI.

The sponsorship agreement demanded that a beneficiary offers free service to the community for at least 1 year. Each graduate was provided with basic toolkit and protective gear. The graduates of WTI have the potential to drastically increase sustainability of water sources and to reduce the burden on the Ministry for such services.

So far the WTI graduates cover portions of the 5 target districts – leaving out 38 districts uncovered at all. Some of the selected candidates lacked the basic level of education on which to build the learning. WTI has shown quick impact and it has already attracted ADB and UNICEF, who are preparing to sponsor the next bunch of trainees.

The interviewed WTI graduates showed confidence in fixing small problems related to the village water and electricity systems. Moreover, they knew who to contact for help for a problem that was beyond their ability.

The evaluation found that the graduates have or are in the process of being absorbed into the labour market as follows:

- Employed by the government (at least 3)
- Self-employed through contracts (e.g. a beneficiary operator in Burao won a US$ 50,000 contract)
- Covered by the community water project

The Ministry noted that the re-use of spare parts was minimal and most parts of a water system (including whole generators) are simply replaced. The MoWR feels that valuable resources could be recovered if appropriate workshops and skills are established.

3.5.3 Water Management Manual

Somaliland developed a Water Act, National Water Policy and National Water Strategy. But CARE's assessment found several gaps regarding the usefulness of the framework at the grassroots level. The documents address generic policy issues without due details for regulation of community level water management. Consequently, there lacked a harmonized approach to rural community water management– different organizations used different models. The models generally resulted in failures, as evident from the fact that on average 50 percent of community managed water points were not working. The assessment concluded that the problem of sustaining community water points was not just technological; it was about institutional setup. There existed role confusion – it was not clear who was responsible for what.

This project has attempted to fill the institutional lacuna by supporting the ministry to produce a management manual, titled 'Rural Water Supply Community Based Management Manual.' The document sets up the Water Point Management Units. However, the proposed unit comprises 3 persons – one appointed.

Where it has been introduced, the document has improved accountability and transparency in the management of local water funds, hence promoting a culture of sustaining the water points. However, the document has not become widely known and applied instrument at the local level. Reasons for this includes the fact that the document is fairly long for the generally verbal (non-reading) audience and because it both combines technical and managerial level.

The manual was developed through a long consultative process involving all main stakeholders, including a validation process done by the Somaliland WASH cluster. However, the evaluation found that the document needs more discussions to streamline and build further census around its proposals.

The manual has been disseminated but not extensively or effectively enough. 300 copies were printed (200 in Somali and 100 in English) and most had been distributed. Four cluster meetings were held to disseminate the manual – 2 in Burao, 1 in Hargeisa and 1 in Gabiley. The evaluation noted that dissemination required much more than just distribution – stakeholders needed to interact and critique the contents of the manual more deeply.

Overall, the Rural Water Supply Community-Based Management Manual is a great tool that will reduce role confusion and conflicts and hence improve community water management.

3.5.4 The exchange visit

The project supported 7 officers (3CARE and 4 MoWR) on a 10-days learning visit to Kenya. The group visited 4 counties – 2 of them with environmental conditions that resemble those in Somaliland. One of the key learning points was how the Kenya Water Act separates 'water resources management' and 'water service provision'. The separation highlights the importance of conserving the natural resource rather than just exploiting it. As a result of this awareness, the Ministry has started to focus on the water resource management in Somaliland. This has previously not been a priority. The Ministry is now fully conscious about the need to capture rainwater in large scale, store it in '*haffirs*' and abstract in as needed. The emerging shift in policy and practice is evident from the current proposal to ADB, which proposes, among other things, to constructs 6 h*affir dams*.

It was reported that ground water has been over-abstracted in some parts of Somaliland, such as Borama. Moreover, drying up of shallow wells occurs almost everywhere in the dry seasons. The shifting opinion may lead to policy and practice on water resource management, including aquifer recharge and other types of ground modelling

3.5.5 Drought response unit

Somaliland has three main types of water sources: berkads[7]; shallow wells (including scoop holes on riverbeds); and deep boreholes. Manmade or natural water sources (such as dams, pans, river and lakes) are rare and/or seasonal. Direct (rooftop) rainwater catchment is done on small skill and hampered by scarcity and unpredictability of the rains. In general, shallow wells dry up during the dry seasons. The situation gets worse when a dry spell prolongs into a drought. However, the deep boreholes retain water throughout the year and serve as 'strategic water sources'. Water abstraction is usually by diesel-powered pumps. When other water sources dry up, people and livestock concentrate at the strategic water points. In addition, water from such points is trucked to save lives elsewhere. This means that the system works for long hours – often up to 24 hours in a day. Consequently, the wear and tear of the pump and the generator become very high. Coupled with the cost of diesel, the sources are expensive to sustain.

According to MoWR, Somaliland has 373 deep well water holes; about 40% of which are not functioning at any one given time. Repair of single borehole costs US$10, 000 to US$15,000 using a private company. About 50% of the money goes to the hire of a lifting crane. To bring down the costs and ensure sustainability of the strategic boreholes, this project supported the establishment of drought rapid response team. Specifically, the project purchased a lifting crane and basic tools (at a cost of about US$ 55,000) for the RSU. At the time of the evaluation, the RSU was working in the drought-stricken Awdal region.

3.5.6 Water quality

This project did not have a direct component on the water quality. However, this evaluation found that water quality is a concern among the beneficiaries. When the protected wells dry up, consumers turn to alternative sources that often provide water of questionable quality. Such sources included unprotected wells and scoop-holes. Collection of rainwater over dusty roofs also presented health risks.

[7] An underground cemented water storage facility that collects runoff and it is usually (not always) covered.

The evaluation was concerned about how water was handled at the household – the methods of transportation, covering/storage and drawing. Knowledge of the risks associated with unsafe drinking water was low. Asked in FGD if they did anything to such water before drinking, the answers showed that water treatment was not common. "Water from the pan is full of vitamins," remarked one respondent, "and we drink as it is." This was the case despite the fact that the water was drawn from an open pan and exposed to all manner of contamination, including human and animal faecal matter.

3.6 Sanitation and Hygiene Promotion

3.6.1 CLTS

'*Haraad Reeb*' project used CLTS approach to promote sanitation and hygiene in the target communities. This approach sought to change the mindset of the beneficiaries towards better hygiene and sanitation practices. In this sense, CLTS empowers communities and reduces donor dependency. Further, the evaluation found that CLTS Somaliland's official policy on sanitation promotion. The approach is appropriate in development setting. It advocates a 'no subsidy' approach to elimination of open defection. The evaluation found that CLTS as implemented in this project faced a number of hurdles:

- Normal latrines are too expensive (US$300-US$650) for poor households
- Hard soils in some places (e.g. Kiridh) made pit digging almost impossible and raised costs
- Soft, prone-to-collapsing soils in other places required pit lining and hence higher costs
- Donor dependency syndrome – international communities have in the past provided either fully- or half-subsidized latrines (emergency approach)
- Some people still preferred open defecation, especially at night – the fact that latrines stunk was cited as the main reason
- Some negative cultural beliefs still persist, such as "using a latrine is a curse" or "a pit latrine is the house of *jins*/ghosts"

Regardless, CLTS as implemented through this project was generally a success. The main factors that contributed to the success are:

- Local administrators (chiefs and clan elders) put pressure on people not to defecate in the open and in some cases offenders were arrested and fined
- Women acted as CLTS champions and their influence was great enough to change a whole village
- Availability of local skills and some materials (sand, stones and bricks) for latrine construction
- People live in small towns, where suitable places for open defecations are far from the dwellings
- Triggering and post-triggering follow-up (by ToT/CLTS facilitators) were effective

3.6.2 Sanitation situation

The evaluation found that 69% had household latrines – 31% relied on their neighbours' facilities or practiced open defecation. However, because of the culture of latrine sharing, it was still possible to achieve ODF status in some villages. Where a latrine was shared, the responsibility of cleaning it was shared by the sharing households.

The commonest type of latrine was a simple pit with concrete/washable floor. Vent pipes were not commonly observed in these latrines. The latrines had no roofs and were reported to double up as family bathrooms. Because of the natural air circulation, vent-piping was not applicable. Simple unimproved pit latrines constituted 16 per cent of the sample and off-site (waterborne) technology was reported in only 2 per cent of the households.

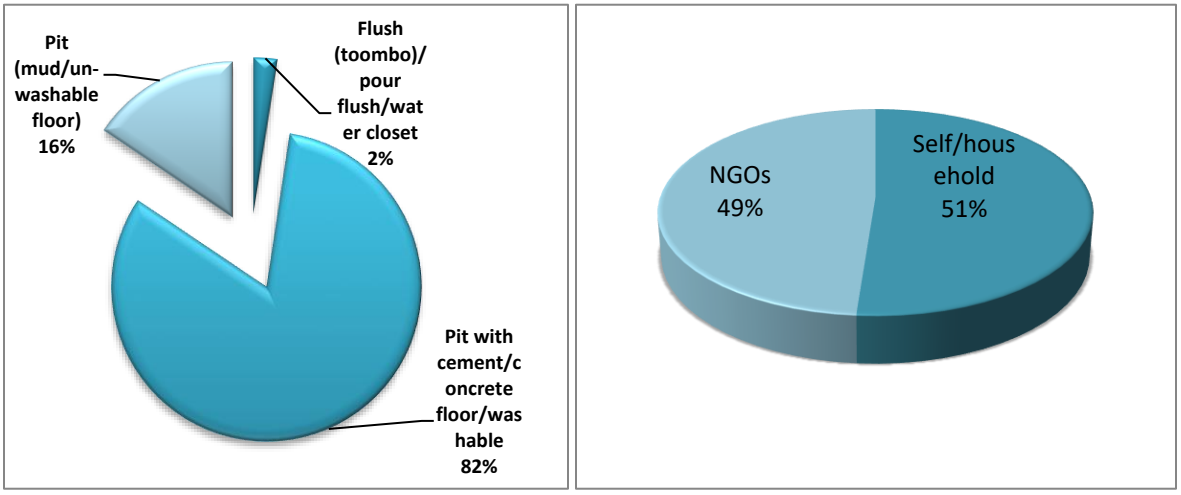


Fig. 9: Types of latrines found in the project villages (L) and sources of resources used to construct the latrines

The project had intended to have at least 5 villages declared ODF and this was achieved. 53 per cent of the respondents said that someone had discussed sanitation issues with them over the previous one year. Of this number, 78 per cent said that the source of information had been CARE's sanitation promoters. While 99 per cent said a household latrine is important, only 84 per cent of them linked household latrine with prevention of diseases.

Triggering and post-triggering experiences were narrated during the FGDs in the target villages. Presence of community sanitation leaders, instituted through this project, was reported in 83 per cent of the sampled villages. Partly due to the efforts made through the CLTS promotion in this project, 51 per cent of the households had constructed their own latrines. Nearly half (49%) of the households, however, used latrines that were either fully or partially subsidized by NGOs.

Shared latrines demonstrated the value of the facility to those without them and therefore prompted construction of more household latrines. The key driver for the ownership of household latrine was social status: "A clean latrine gives you a good social image … if you own a latrine, you are a successful person."

In addition to proper disposal of faecal matter, the communities often expressed need for proper management of solid waste. Most communities had declared Thursdays as 'public sanitation' days. Rubbish was collected communally and moved out of the village using the donkey carts and wheelbarrows provided by this project.

The evaluation observes that while the project implemented sanitation and hygiene promotion activities that usually fall in the docket of the Ministry of Health (MoH), the involvement of this ministry in the

project was insignificant. This seems like a discrepancy or an oversight given that MoH is the custodian of National Health Policy. The ministry has the 'Department of Public Health and Communicable Disease Control', which is mandated with, among other things, public health promotion.

The ability and willingness of the households to construct their own latrines (seen in 51% of the cases) indicates a level of self-reliance and sustainability of the effort. Another indicator of sustainability is the fact that 98 per cent of the available latrines were in use and were hygienically maintained. Latrine usage was high at 91 per cent. However, this dropped to 86 per cent at night time. It was reported that some people used the cover of darkness to practice open defection. Only the elderly (9% of the cases) and children (1%) of the cases were reportedly not using latrines. FGDs revealed that the communities disposed babies' faeces responsibly in latrines.

3.6.3 Hygiene promotion

At least 70% of the population had received hygiene messages. Of these, 89 per cent mentioned that the source of the message was CARE/'Haraad Reeb' personnel.

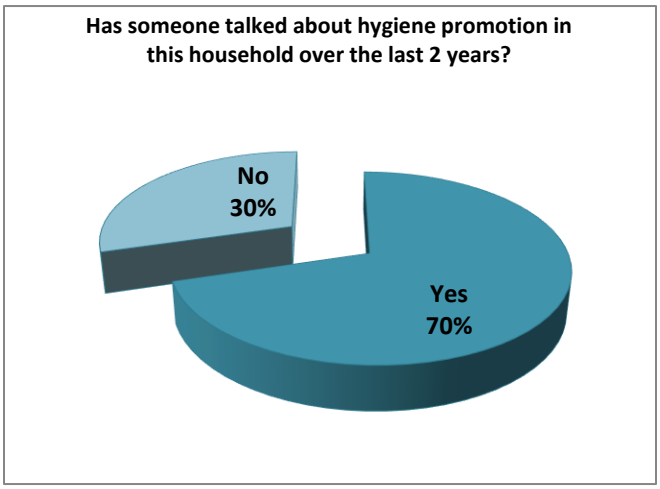


Fig. 10: Proportion that received hygiene messages

Hygiene messages had resulted in an improvement in practice. Hand washing without soap is culturally practiced after defecation but this does not constitute proper hand washing for disease prevention. The evaluation sought to establish the extent of proper hand washing using an abrasive agent (soap or ash) and water. It was found that 72 per cent correctly washed hands with an abrasive agent and water. Only 28 per cent reported use of water only (fig. 15).

Table 6: Findings on key hygiene practices

Question	Average response

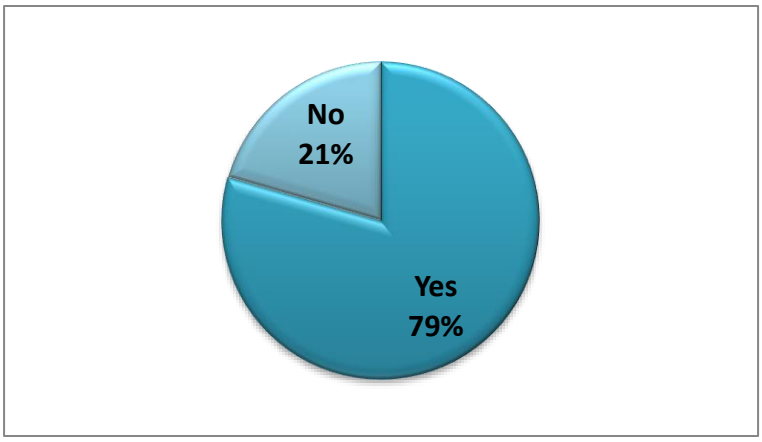
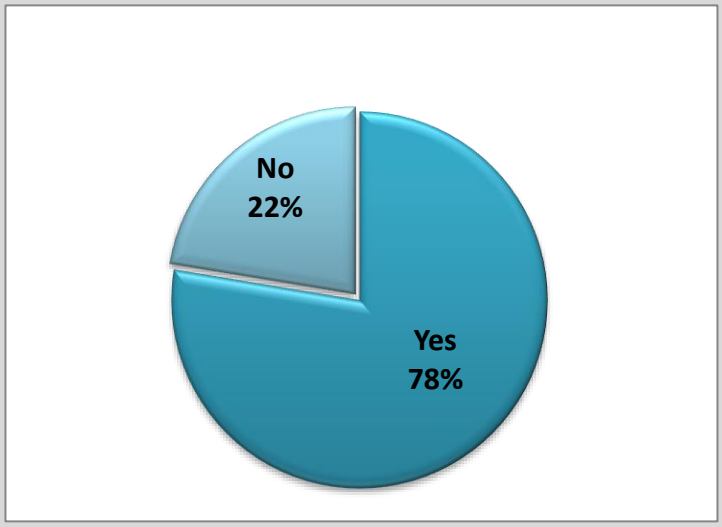
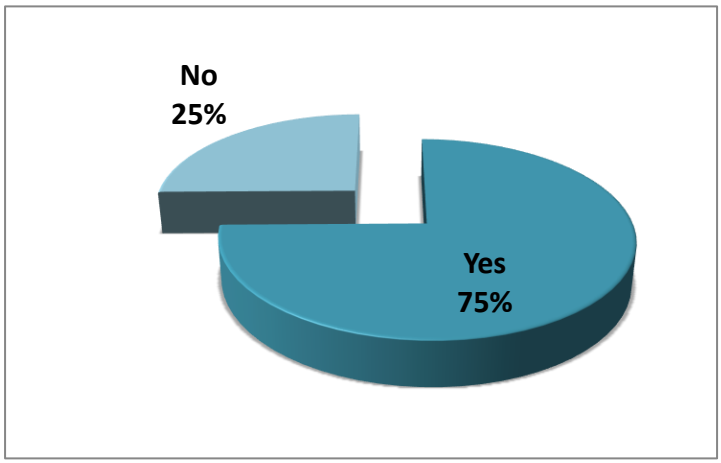
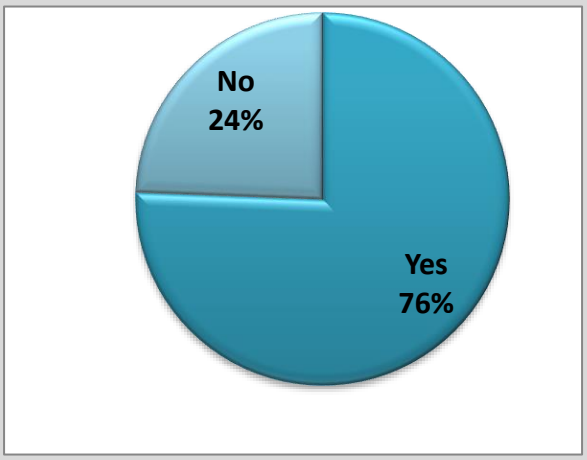
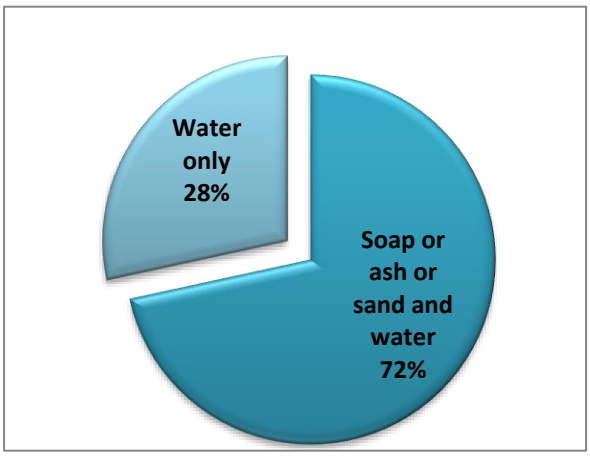
Did you wash hands with soap before eating last time?	 **Fig. 11: Proportion washing hands with soap before eating**
Did you wash hands with soap last time after defecating?	 **Fig. 12:Proportion washing hands with soap after defecating**
Did you (or a member of the family) wash hands with soap last before preparing food?	

	Fig. 13:Proportion washing hands with soap before preparing food
Do people in this household wash hands after cleaning a baby's bottom?	 **Fig. 14:Proportion washing hands with soap after cleaning a baby's bottom**
What materials do you USUALLY use for hand washing?	 **Fig. 15:Materials usually used for hand washing**

4. Conclusions and Recommendations

4.1 Conclusions

It is concluded that '*Haraad Reeb'* was a realistically designed project that demonstrated more than usual creativity is tacking a difficult problem. Directly, the project improved the lives of over 36, 000 people and, indirectly, it will impact nearly the whole of the rural population in Somaliland through policy shifts. There was a clear exit strategy and sustainability concerns remained at the core of the project.

4.2 Recommendations

4.2.1 Programming

- Hold a one-day national WASH forum/workshop to share, discuss and disseminate the key outputs of this project (specifically, 'Solar Powered Rural Water Supply Management Model'; 'Drought Response Unit'; 'Hargeisa Water Technical Institute'; and 'The Rural Water Management Policy') with a view to increasing utilization of lessons learned from the project
- Future projects/programs should target building community assets and collective resilience (in non-emergency interventions) rather than focusing on individual households; for example, replacing direct donation of NFIs with work for assets/NFIs.
- Any projects of programs with sanitation and hygiene promotion components should involve and develop the capacity of the ministry responsible for public health.
- CARE needs to develop and implement 'complaint mechanism' to improve on accountability to its beneficiaries.
- 1) Scale up the experiences of the project to meet more needs on the basis of the lessons learned so far. 2) Subject the 'Rural Water Supply Community Based Management Manual' to further discussions and critique with a view to adopting it as a national policy. 3) Support MoWR to develop water resource management guidelines and/or policy
- CARE needs to scale up this project's activities, taking into account lessons learned from the past phases, to increase coverage in the target villages and possibly reach new communities

4.2.2 Water supply: general

- Future projects should promote water quality awareness, including safer handling at the point of use (PoU)
- Wherever a shallow well is improved, and where physical conditions allow, construction of sand dam should be included

4.2.3 Water supply: infrastructure improvement

- Tanks provided for rainwater harvesting should be lifted appropriately to ensure water can be collected conveniently from the tap.
- Future projects need to increase the household water tanks and these enhance the household's water security using an sustainable approach, such as work for assets
- Future project should work with the community to link them to financial institutions as means of increasing the solar electricity coverage based on the water supply modeled used in this project.
-

- Future solar lighting project needs should encourage household connection in order to enhance the quality of children's education, encourage latrine use at night and deter potential gender-based sexual violence

4.2.4 Water supply: Operation and Maintenance

- The 'Rural Water Supply Community Based Management Manual' should be subjected to further discussions, critique and then re-advocated as a national policy
- Support MoWR to develop water resource management guidelines and/or policy
- Rural Water Supply Community-Based Management Manual needs to be revised to state explicitly that the community representative in the Water Point Management Unit shall be a woman – or, better, increase the committee to members 5, such that at least 2 persons represent women and youth.
- Set a higher standards of qualifications (education, age and experience) to train at WTI in order to ensure the trainees can easily learn and benefit from the course
- Improve gender inclusion in WTI training, especially targeting young, capable women who have the time to attend such trainings
- Diversify the course at WTI to include water quality as well as mobile-phone and radio repairing
- MoWR should develop a strategy to actively follow, motivate and monitor the performance of the newly trained rural water technicians
- Cluster several villages into larger unit to be operated by one technician in order to increase the volume of work (incomes) required to sustain the system and to ensure the technicians do not remain idle
- Produce a simplified, popular version or poster of the community management manual for community managers and general public
- Review and edit the English version of the policy to give it a professional language and hence make it more appealing to the international community
- Establish additional rapid response units (RSUs) preferably one per region or per cluster of regions
- Support establishment of at least two workshops (in addition to WTI) to repair and re-use components of gensets and pumps that are currently thrown away

4.2.5 Sanitation and Hygiene Promotion

- Continue with CLTS to promote behaviour change toward improved sanitation and hygiene practices
- Research and introduce simple technological options for latrines that are culturally acceptable, affordable and durable

Annexes

Annex 1: Household Questionnaire

Final Evaluation of Haraad Reeb (Quenching the Thirst) III Project: Togdheer and Sool and Sanaag Regions, Somaliland

Household Questionnaire

Name of enumerator……...…….Tel. number: ……..

Date……

Region (Select): Toghdheer [1] Sanaag [2] Sool [3]

District (Select): Aianabo [1] Eil-afwayne [2] Las-anod [3] Burco [4] Oodwiene [5]

Village name (Write) …….

1. **Socio-demographic attributes**

Question		Response	Code
SD1	Gender of the respondent	Female	1
		Male	2
SD2	How old are you now?	Enter age in years	
SD3	Who is the respondent in the household?	Mother/father	1
		Adult family member	2
SD4	What is the marital status of the respondent?	Married	1
		Single	2
		Widow/widower	3
		Divorced	4
		Separated	5
SD5	How many people live in this household currently[8]	Enter number of people	
SD6	How many children below 5 years are in this household?	Enter number of children(enter zero if no children below 5)	
SD7	Which is the **most** accessible source from which you get information on family health/hygiene?	Radio	1
		TV	2
		Community elders	3
		Health facilities	4
		TBA (Traditional birth attendants)	5
		CHWS (Community health workers)	6
		Friends	7
		Mobile phone	8
		Other	9
SD8	Are you aware of the Haraad Reeb project that CARE has been implementing in this villages over the last one or two years?	Yes	1
		No	2

2. Water supply

[8] People who eat from the same pot

W1	What is your **MAIN**water source in the **DRY** season?	Borehole/kiosk	1
		Protected well	2
		Open/unprotected well	3
		Tanker/trucked	4
		Berkad	5
		Seasonal river/sand dam/ scooping in riverbed	6
		Household connection	7
		Rainwater/roof catchment	8
		Other	9
W2	What is your **MAIN**sourceof water in the **WET** season?	Borehole/kiosk	1
		Protected well	2
		Open/unprotected well	3
		Tanker/trucked	4
		Berkad	5
		Seasonal river/sand dam/ scooping in riverbed	6
		Household connection	7
		Rainwater/roof catchment	8
		Other	9
W3	Who manages your water point?	Water management units /group	1
		Private operator (PPP)/owner	2
		No one	3
W4	Did you/or someone in this household participate in the development of the water source?	Yes	1
		No	2
W5		Decision making/meeting	1
		Labour contribution	2

	If you/your household participated in the water project, what role/roles did you play? (Multiple responses)	Financial contribution	3
		Did not participate	0
W6	Do you pay for water you obtain from the source that CARE/Haraad Reeb project improved?	Yes	1
		No	2
W7	If you pay for water, how much do you pay? [**Only one answer please**]	Enter Somali shillings per month [if payment is monthly]	
		Enter amount paid for 20l jerrican [if water is bought in 20l jericans]	
		Indicate other size of container used [_____liters] and enter amount paid	
		I do not pay	0
W8	If you pay for water, what do you think about the tariff/price of water?	Very affordable	1
		Affordable	2
		Not affordable	3
		Too costly	4
		I do not pay	0
W9	Does your source provide water every day throughout the year?	Yes	1
		No	2
W10	Was the water point that CARE project provided functioning/supplying water yesterday?	Yes	1
		No	2
W11	If the water point that CARE project provided was not functioning yesterday, why?	Source dried up	1
		Mechanical problem	2
		Other	3
		I do not know	4
		Source was functioning	0
W12	How much water does your household use/fetch per day in the **wet** season?	Write the amount in liters	

W13	How much water does your household use/fetch per day in the **dry** season?	Write the amount in liters	
W14	How much water can your water containers hold/store at a time?	20 liters (1 jerrycan)	1
		40 liters (2 jerricans)	2
		120 liters(6 jerricans)	3
		More than 120 liters (over 6 jerricans)	4
W15	Did this household receive jerrican/s and a wheelbarrow/s from CARE Haraad Reeb Project?	Yes	1
		No	2
W16	If you received jerrican/s and a wheelbarrow from CARE, are these items still in use?	Yes, all are in use	1
		Yes, some are in use	2
		Items no longer in use	3
		No items were provided	0
W17	If water comes from the ground, how is it lifted?	Generator is used	1
		Solar is used	2
		Both solar and generators	3
		Human hand/pump	4
		Water does not come from ground	0
W18	Do you get enough water for all domestic uses?	Yes, sometimes	1
		Yes, all the time	2
		No	3
W19	Do you queue when you are getting the water at the source?	Yes	1
		No	2
W20	Have you experienced any conflicts (quarrels/fights) at the water source in the last one month?	Yes	1
		No	2
W21	How far is the main water point in the **dry** season?	500 m or less	1
		Over 500 m	2

W22	How far is the main water point in the **wet** season?	500 m or less	1
		Over 500 m	2
W23	How much time does a round trip (to and from) the water point take in the **dry** season?	30 minutes or less	1
		30 min or more	2
W24	How much time does a round trip (to and from) the water point take in the **wet** season?	30 minutes or less	1
		30 min or more	2

3. Hygiene promotion

H1	Has someone talked about hygiene promotion in this household over the last 2 years?	Yes	1
		No	2
H2	If someone talked to you about hygiene, who was the person?	From CARE/project	1
		From another organisation	2
		There were no talks	3
H3	Did you wash hands with soap last time you **visited latrine**?	Yes	1
		No	2
H4	Did you wash hands with soap **before eating last time**?	Yes	1
		No	2
H5	Did you wash hands with soap last time before preparing food?	Yes	1
		No	2
H6	Did you (or a member of the family) wash hands with soap last time after cleaning baby's bottom?	Yes	1
		No	2
H7	Do people in this household wash hands after cleaning a **baby's bottom**?	Yes	1
		No	2
H8	What materials do you USUALLY use for hand washing?	Soap/ash/sand and water	1
		Water only	2
H9	Why is hand washing important?	To prevent diseases	1

		Other reasons	2

4. Sanitation

S1	Do you have a household latrine?	Yes	1
		No	2
S2	Has anyone discussed with you about household latrine over the last 1 or 2 years?	Yes	1
		No	2
S3	If yes, who discussed sanitation with you?	CARE/hygiene promoter	1
		Government person	2
		Other	3
		Nobody discussed	0
S4	Do you have a community sanitation leader in this village?	Yes	1
		No	2
S5	Do you think a latrine is important?	Yes	1
		No	2
S6	If yes, why is a latrine important? (Pick the first response)	Prevents diseases	1
		Prevents foul smell	2
		Keeps home attractive	3
		Respect from neighbours	4
		Others	5
S7	If you have a latrine, what type is it?	Flush (*toombo*)/pour flush/water closet	1
		Pit with cement/concrete floor/washable	2
		Pit (mud/un-washable floor)	3
		No latrine	0
S8	If you have a latrine, who provided resources for its construction?	Self/household	1
		NGOs/CARE	2
		No latrine	0

S9	Is the latrine used?	Yes	1
		No	2
		No latrine	0
S10	Do you use latrine all the time during the day?	Everyone uses	1
		Yes, mostly children	2
		Yes, mostly elderly	3
		Yes, mostly men	4
		Yes, mostly women	5
		No latrine	0
S12	Does everyone use latrine all the time including nighttimes	Yes	1
		No	2
		No latrine	0
S13	If latrine is not used at night, why?	Fear of darkness/no light (snakes, scorpions etc)	1
		Fear of bad people (e.g. rape)	2
		Latrine is used all the time	0

Remember to thank the respondent for his/her time and contribution!

Annex 2: List of Key Informants

SN	Name	Position/Organisation	Telephone (+252...)
1	Dr.Abdrisak Jama Nour	Director General, Ministry of Water Resources	0634-240-338
2	Ibrahim Duale Awke	Project Officer, CARE	0634-201-888
3	Hassan Jama	Area Manager, CARE	0634-423-530
4	Kamal Farah	WASH Advisor, CARE	0634-003-899
5	Eng. AbdirahimAdisalan	Director of Sustainability and Regulatory Framework, Ministry of Water Resources	0634-422-488

6	Eng. Abdiraman Omar Farah	Director of Planning, Ministry of Water Resources	0634-402-331
7	Eng. Saeed Mohamed Duale	Director osf Water Resource and Engineering, Ministry of Water Resources	0634-424-960
8	Muhyadin Yussuf	M & E officer, CARE	0634-707-661
9	Aadan Mohamed	Rural Water Operator, Kiridh	0634-428-436
10	Mohamed Aadan	Rural Water Operator, Dalyare	0634-250-898
11	Jaamac Mohamed	Rural Water Operator, Qoryaale	0634-351-422
12	Mohamed Olsad	District Water Officer	0634-438-112
13	Mohammed Younis (Jodhaa)	Senior Program Officer, WASH projects	0634-633-280
14	Zayid Mohamed Higaal	Member of the village committee, Suuqsude	0634-355-383
15	Abdi Shire	Chairperson, village committee, Suuqsude	0634-327-987
16	Ahmed Hasan	Operator, Geel-Loo-Kor Water Project	0634-268-139
17	Ms Amina Deeriye	Deputy Chairperson, Dhubato Water Project	0634-153-659
18	Ms. Maryam Aadan	Secretary, Dhubato Water Project	0634-478-371
19	MustafeDhinbiil	Deputy Chairperson, Hariirad PPP water project	0634-570-056
20	AbdiramanGeedi	District Secretary, Hariirad PPP water project	0634-570-291
21	Mohamed Kaahin	Operator, Hariirad PPP water project	0634-455-910
22	Eng. Calaacal		

References

1. BMZ-CARE Proposal – original (2013) and amended (2015) versions
2. Haraad Reeb Project Logical Framework (Log-frame)
3. Haraad Reeb III Project Baseline Report: Togdheer Region & Caynabo District in Sool Region, Somaliland (April 2014)
4. CLTS Post Triggering Report (September 2014)
5. Delta - Community Led Total Sanitation (CLTS) Training Of Trainers (ToTs) Report, July, 2014
6. Governance to Functionality Assessment Report, June 2015
7. CARE-MoWR Memorandum of Understanding for Implementing the Haraad Reeb III Water Project (Oct. 2013)
8. Somaliland Water Regulatory Framework Review For Drought Resilience Preparedness
9. Rural Water Supply Community Based Management Manual, December 2015
10. Somaliland Water Act: Policy against Reality on the Water Management System
11. Solar Powered Rural Water Supply Management Models